

Title 1-Methylcyclopropene and ethylene as regulators of *in vitro* organogenesis in kiwi explants

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Abstract

In this paper, we study the influence of ACC, AVG and 1-MCP on *in vitro* organogenesis of kiwi (*Actinidia deliciosa*) explants and on ethylene metabolism. Results indicated that increasing ethylene production and accumulation in the head space of the culture vessel by adding ACC to the culture medium inhibited organogenesis, except for rooting, which increased and stimulated ACC oxidase activity threefold, whereas AVG increased the length and number of shoots and leaves and inhibited about 80% ACC synthase activity compared with the reference explants. 1-MCP exerts a stimulatory effect analogous to AVG, increasing ACC synthase activity and organogenesis of kiwi explants. This effect is not reverted by the addition of ACC to the culture medium. Therefore, ethylene production and its accumulation in the headspace of the culture vessels seems to be responsible for the inhibition of shoot development as well as increasing rooting in *in vitro* cultured kiwi explants.